

## REMARKS

In response to the Examiner's objection to Claim 8, the claim is amended by deleting the adjective, "non-noble," that modifies at two locations within the claim text the phrase "Group VIb metal." It is respectfully submitted that this correction addresses the Examiner's objection.

Claim 11 is amended to place it in independent form. Its preamble now states that the catalyst is XRD-amorphous. Also, incorporated into claim 11 are the limitations of independent claim 1 and dependent claim 10 from which claim 11 depends. The Examiner indicated that claims 11-12 were allowable if claim 11 is placed in independent form that includes all the limitations of the base claim and the intervening claims. It is submitted that this has been done.

Claim 12, which depends from claim 11, is amended to recite a range for the X:M molar ratio. Support for this range may be found in the published specification at, for instance, paragraph [0048].

New claims 27-46 are added to the specification. Among these, claims 27-36 depend directly or indirectly from claim 11 that is now in independent form. Claims 37-46 depend directly or indirectly from independent claim 8. The following table presents the paragraphs of the published specification in which support may be found for the limitations of the new claims.

Table

Claim No.	Paragraph within specification
27, 28, 33, 37, 38, 43	[0044]
29, 34, 35, 39, 44, 45	[0046] through [0048]
30, 32, 36, 40, 42, 46	[0052], [0097], claim 12

### **§103 (a) Rejection of Claims 8-10 over US 6,271,169 to Kourtakis et al.**

The Examiner contends that the Kourtakis patent discloses the applicants' claimed catalyst and that the claimed metal ratios are obvious as being a mere matter of optimization. The Examiner further argues that the process limitations of the independent claim "have no bearing on the patentability of the claimed product." It is respectfully submitted that the differences between the claimed composition and the composition taught by the Kourtakis patent are so substantial that the claimed composition is certainly patentable over the prior art. And, furthermore, the co-precipitation feature of the claimed bulk metal oxide provides for certain

unexpected improvements in the properties of the catalyst composition containing the bulk metal oxide.

The Kourtakis patent teaches a catalyst composition that has application in C<sub>4</sub> oxidation processes. The catalyst is prepared by forming a colloidal solution of the metal compounds followed by freezing the solution and freeze drying and heating. *See* column 4, line 66 – column 5, line 9; column 5, line 43 – column 6, line 15; and Examples. Another of methods for preparing the Kourtakis composition includes mixing a solution of the metal cations, forming a suspension, heating the suspension under reflux and isolating the composition. *See* column 6, lines 16-24; and Examples. There is not mention in the Kourtakis patent of co-precipitation to make its composition.

The applicants' claimed catalyst composition is significantly different from the composition taught by Kourtakis. Not only is its intended use different, e.g., hydroprocessing versus C<sub>4</sub> oxidation processes, but also the applicants' composition itself is different. The bulk metal oxide component of the claimed catalyst is prepared by precipitation. This preparation procedure is described in detail in the published specification at paragraphs [0058] – [0063]. And, also, throughout the applicants' specification it is demonstrated that the method of preparing the bulk metal oxide component of the inventive composition provides for a composition having unexpectedly improved properties. *See, e.g.*, paragraphs [0012], [0024], [0032], and the Examples. Furthermore, the relative atomic ratios for the elemental components of the bulk metal oxide compound of the claimed catalyst are significantly different from those taught by Kourtakis and are indicated in the applicants' specification to have an impact on the performance of the catalyst that contains the bulk metal oxide compound.

In view of the above comments, it is respectfully submitted that claims 8-10 are patentable over the prior art. Also, in view of the amendments to claim 11 that place it in independent form, it is further submitted that the Examiner's objection to claims 11-12 has been addressed. The applicants, thus, request early allowance of claims 8-12.

Respectfully submitted,

LASZLO DOMOKOS, HERMANUS JONGKIND,  
and JOHANNES A. R. VAN VEEN

By /Charles W. Stewart

Their Attorney, Charles W. Stewart  
Registration No. 34,023  
(713) 241-0360

P. O. Box 2463  
Houston, Texas 77252-2463